REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing requested amendments and in view of the reasons that follow. Applicant respectfully asserts that entry of the requested amendments would place the application in condition for allowance. Alternatively, entry of the requested amendments would place the application in better form for consideration on appeal.

Claims 1-13[1] stand objected to for minor informalities. Claims 11 and 12 stand rejected under 35 U.S.C. § 101 for being directed to non-statutory subject matter. Claims 1, 3, 4, 9, 11 and 12[2] stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 7,200,268 to Ishizuka et al. (hereinafter "Ishizuka"). Claims 2, 3, 12 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishizuka in view of U.S. Patent No. 6,753,976 to Torpey et al. (hereinafter "Torpey"). Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishizuka in view of well known prior art.

By this amendment, claims 1, 11 and 12 have been amended to correct the minor informalities noted on page 2 of the Office Action. Applicant respectfully submits that the claims, as amended, are in proper form and respectfully requests withdrawal of the objection. Claims 11 and 12 have been amended to address the non-statutory subject matter concerns raised on pages 2-4 of the Office Action. Support for the amendments to independent claims 11 and 12 can at least be found on page 5, line 7 through page 6, line 10 of the present invention (rewritable nonvolatile ROM 2, RAM 3, or hard disk drive 4). Applicant respectfully submits that independent claim 11 and 12, as amended, are directed to statutory subject matter and comply with the requirements set forth under 35 U.S.C. § 101. Withdrawal of the outstanding rejection with respect to these claims is respectfully requested.

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[1] The Office Action contains an error. Claims 1-13 have been identified as being objected to for minor informalities. The Office Action should have identified claims 1-4 and 9-13. Clarification of this point in the next communication is respectfully requested.

[2] A rejection of claims 3 and 12 as being anticipated by the Ishizuka reference does not appear in the Office Action. Applicant assumes that claims 3 and 12 are only rejected under the combination of Ishizuka and Torpey as indicated on pages 7-9 of the Office Action. Clarification of this point in the next communication is respectfully requested.

Independent claims 1, 11 and 12 have also been amended to further define the subject matter Applicant regards as the invention as discussed in greater detail below.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier. After amending the claims as set forth above, claims 1-4 and 9-13 remain pending in this application for consideration.

Applicant respectfully submits that the claims are patentably distinguishable over the cited references as required by §102 and §103. Applicant further submits that none of the cited references, whether considered alone or in combination, discloses Applicant's claimed image forming apparatus having: (1) ***a forming unit*** configured to form a display list based on an analysis of PDL information and (2) ***a determination unit*** configured to determine whether a line object which is to be drawn by the display list is drawn by a line drawing command as required by amended independent claim 1. Amended independent claim 11 is substantially similar in scope to amended independent claim 1 and includes the same patentable features in the context of steps of a computer-readable medium encoded with a computer program for causing an image forming apparatus, which forms an image on the basis of PDL information, to execute a process. Amended independent claim 12, is also similar in scope to amended independent claim 1 and is directed to a computer-readable medium encoded with a computer program for causing an image processing apparatus to execute a process including the steps of: (1) ***forming a display list*** based on an analysis of PDL information and (2) ***determining whether the PDL information is composed of a polygon***. By contrast, the cited references fail to disclose, teach or suggest these claimed features, steps and arrangements. Accordingly, independent claims 1, 11 and 12 and claims dependent therefrom are patentably distinguishable over the cited references. These distinctions will be further described below.

THE CLAIMS DISTINGUISH OVER THE CITED REFERENCES

The Rejection Under 35 U.S.C. 102

Claims 1, 4, 9 and 11 stand rejected as being anticipated by Ishizuka. In response, Applicant traverses the rejection and respectfully submits that the claims are allowable at least for the reasons that follow.

Applicant relies on MPEP § 2131, entitled "Anticipation – Application of 35 U.S.C. 102(a), (b), and (e)," which states that a "claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Section 103 amplifies the meaning of this anticipation standard by pointing out that anticipation requires that the claimed subject matter must be "*identically* disclosed or described" by the prior art reference. (Emphasis added.) It is respectfully submitted that Ishizuka does not describe each and every element of any of the claims.

Embodiments of the present invention relate to an image forming apparatus and a computer-readable medium encoded with a computer program for causing an image forming apparatus, which forms an image on the basis of PDL information, to execute a process. The image forming apparatus according to independent claim 1 includes a forming unit, a determination unit, a comparison unit, a changing unit and a drawing unit. The forming unit is configured to form a display list and the determination unit is configured to make a determination. The comparison unit is configured to compare, if the determination unit determines that the PDL information is a line object that is drawn by a line drawing command, at least one of the attributes of the line object that are a width, an angle, a line type, hue, saturation, brightness, and an angle of a screen pattern with a threshold. The changing unit is configured to execute change of at least one of the attributes of the line object in accordance with a comparison result of the comparison unit. The change of at least one of the attributes of the line object being one of the change of color of the line object, change of line width of the line object or change of both the color and line width of the line object. The drawing unit is configured to draw the line object with the at least one of the attributes changed by the changing unit.

According to one embodiment of the present invention as recited in amended independent claim 1, the forming unit is configured to form a display list (i.e., a low-level drawing command) ***based on an analysis of PDL information*** and the determination unit is configured to determine whether a line object ***which is to be drawn by the display list*** is drawn by a line drawing command or not. As such, since processing takes place also in cases where the line object is to be drawn by the display list, outline widths of the to-be-drawn characters can be changed, and it is possible to perform thickening of the characters. Also, processing can take place without dependence on the type of PDL (PostScript, PCL, etc.) so as to absorb the difference in engine characteristics of the printers (see, Specification, page 6, lines 11-13 and page 15, lines 6-15).

With these features and arrangements, the blurring of a line, which would occur when a line object is drawn by a printer can be prevented (page 15, line 25 through page 16, line 2). Amended independent claim 11 is substantially similar in scope to amended independent claim 1 and includes the same patentable features in the context of steps of a computer-readable medium encoded with a computer program for causing an image forming apparatus, which forms an image on the basis of PDL information, to execute a process. Applicant respectfully submits that the cited reference fails to disclose these claimed features, steps and arrangements as well as the benefits provided.

The Ishizuka reference is directed to an image processing device structured such that an appropriate judgment of an image (e.g., at which blurring or disappearance, etc. will occur) is possible, at **the pixel level** (Ishizuka, abstract, lines 1-6). In other words, Ishizuka discloses that when extracting a thin line, judging a thin line by preparing pattern showings a thin line is at the pixel level (column 5, lines 25-30). With Ishizuka's method, however, the effect of thickening the thin line to a matching pattern is unconditionally produced and an undesired image quality occurs. The following comments are presented to illustrate the many differences between the invention disclosed by Ishizuka and the present invention.

Take for example the comparison of a portrait and a graphic image of fine lines. The use of Ishizuka's method has the possibility of making human hair images unwillingly thick, thus causing the hair portion of the image to be blurred. The images of this kind include the

thin lines which are inherently at a level where the output is impossible. Accordingly, no processing is necessary for them. Ishizuka's method, however, cannot perform the processing of thickening a graphic line while keeping the hair unchanged, when the printing data includes objects such as graphic lines, etc. at the same time. On the other hand, the present invention determines whether or not to thicken the line at **the object level**. Therefore, no such drawbacks as in Ishizuka's method will occur. In the present invention, only the thin-line objects drawn by the line drawing command are thickened, thus no effect will be caused except on the line drawing.

Also, the present invention judges the parameter of the line drawing command in PDL description and changes the value of this parameter. The parameter is changed at the analysis stage (i.e. at the level of intermediate language) of the PDL. Thus, once rasterization (i.e. bit-mapping) is performed, it would be unnecessary to perform the thin-line judgment or thickening processing again, unlike Ishizuka's method. When the rasterization has been performed, the present invention already has a desired result. Ishizuka's invention is utilized for the purpose of proofing at the time of making a printing plate. In order to make a warning about the thin lines which are difficult to print out, the corresponding portions are highlighted by printing and outputting in a specific color and with thickened line width. However, what results from such processing is not a final printed matter. From the beginning, since line colors are changed to the user-specified color, it is completely different from a printed matter as a final product. In contrast to Ishizuka, embodiments of the present invention are directed to ensuring printing. That is, when the printing data to be outputted as a final printed matter includes a thin line which cannot be printed out physically, the present invention automatically thickens the line to the physically-printable thickness, and further changes the color slightly for better visibility in consideration of screen angles, etc.

The present invention differs from Ishizuka' invention in the respect that the color of a thin line is not changed to a specific color as in Ishizuka but to a color which is similar to the original color and has the hue not easily causing a blur. Thereby, the present invention can prevent the thin line in a final printed matter from being blurred as much as possible. One specific pattern concerned in line drawing is, for example, a command representing a broken line as a parameter of a stroke command in the PostScript. The line is thickened under the

condition of this command pattern. Accordingly, Applicant respectfully submits that Ishizuka fails to disclose, teach or suggest the forming unit is configured to form ***a display list*** (i.e., a low-level drawing command) ***based on an analysis of PDL information*** and a determination unit is configured to determine whether ***a line object which is to be drawn by the display list*** is drawn by a line drawing command or not. These shortcomings of Ishizuka define at least two patentable deficiencies in the reference.

For anticipation, however, "every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim." *Brown v. 3M*, 60 USPQ2d 1375 (Fed. Cir. 2001). Ishizuka fails to disclose each of the features, steps and arrangements of independent claims 1 and 11.

In view of the fact that the Ishizuka reference does not disclose each of the claimed features, steps and arrangements indicated above, this reference cannot be said to anticipate nor can it be said to render obvious the invention which is the subject matter of independent claims 1 and 11. Thus, independent claims 1 and 11 are allowable.

Since independent claims 1 and 11 are allowable, claims dependent therefrom, namely claims 2-4, 9, 10 and 13 are also allowable by virtue of their direct or indirect dependence from allowable independent claims 1 and 11 and for containing other patentable features. Further remarks regarding the asserted relationship between any of the claims and the cited reference are not necessary in view of their allowability. Applicant's silence as to the Office Action's comments is not indicative of being in acquiescence to the stated grounds of rejection.

The Rejection Under 35 U.S.C. 103

Claims 2, 3, 10, 12 and 13 stand rejected as being unpatentable over Ishizuka in view of Torpey or well known prior art. In response, Applicant respectfully traverses the rejections of these claims, and submits that these claims are allowable for at least the following reasons.

The framework for the objective analysis for determining obviousness under §103 requires:

1. Determining the scope and content of the prior art;

2. Ascertaining the differences between the claimed invention and the prior art;
3. Resolving the level of ordinary skill in the pertinent art; and
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Teleflex, Inc. v. KSR Int'l Co., 127 S. Ct. 1727, 82 USPQ2d 1385 (2007); *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). In order to establish a *prima facie* case of obviousness, all the claim limitations must be taught or suggested by the prior art. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). See MPEP §2143.03.

The Cited References Do Not Suggest All Claim Recitations

The cited references do not meet one of the requirements of MPEP § 2143, which is that "the prior art reference (or references when combined) must teach or suggest all the claim limitations."

Of the claims rejected under the combination of Ishizuka and Torpey, claim 12 is the only claim in independent form. Thus, our remarks are limited to independent claim 12. Amended independent claim 12, is similar in scope to amended independent claim 1 and is directed to a computer-readable medium encoded with a computer program for causing an image processing apparatus to execute a process including the steps of: (1) ***forming a display list*** based on an analysis of PDL information and (2) ***determining whether the PDL information is composed of a polygon***. As stated above, the Ishizuka reference fails to disclose these claimed steps.

The Torpey reference is directed to a method for differentially processing image types within a document image to enhance the quality of the image on a receiving medium, at the pixel level (Torpey, abstract, lines 1-2). Torpey was cited for allegedly disclosing determining whether a particular object is a polygon or not. Applicant respectfully submits that even assuming arguendo that Torpey discloses determining whether a particular object is a polygon or not, Torpey fails to disclose, teach or suggest ***forming a display list*** based on an

analysis of PDL information as required by amended independent claim 12 and was not cited for that purpose.

The known prior art was cited to address features of other dependent claims in the present application. Applicants respectfully submit that this reference also fails to disclose each of the steps identified above and was not cited for that purpose.

In view of the fact that the cited references, whether considered alone or in combination do not disclose the claimed steps indicated above, these references cannot be said to render obvious the invention which is the subject matter of independent claim 12. Thus, independent claim 12 is allowable. Further remarks regarding the asserted relationship between any of the claims and the cited reference are not necessary in view of their allowability. Applicant's silence as to the Office Action's comments is not indicative of being in acquiescence to the stated grounds of rejection.

In sum, one of the requirements of MPEP § 2143 is not satisfied in the Office Action with respect to any of the claims rejected as obvious because the cited references do not teach each and every element of the present invention. Thus, the present claims are allowable.

The Level of Ordinary Skill In the Art has Incorrectly Been Ascertained

KSR did not repeal the *Graham v. John Deere Co.* factors - just the opposite, it reaffirmed them. One of those factors is the requirement that the PTO must resolve the level of ordinary skill in the pertinent art. It is respectfully submitted that the PTO presumes a higher level of skill of the ordinary artisan in this art than was actually present at the time of the invention.

The ordinary artisan would not have had a level of skill sufficient to render the invention obvious to that ordinary artisan. Specifically, before the disclosure of the present invention, the ordinary artisan would not have had the skill to predict that the features of Ishizuka could be modified in accordance with Torpey as is asserted in the Office Action. To the contrary, only the innovator would have had the skill necessary to predict such modification. The ordinary artisan would not have had the skills to arrive at the present

invention without instruction from the innovator. The Office Action is silent in regard to addressing the requisite *Grahm* factors.

Lack of Sufficiently Articulated Rationale to Modify or Combine the References

The Office Action fails to meet the requirement of providing a sufficiently articulated rationale to combine Ishizuka with Torpey.

The Supreme Court in *KSR* stated that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the art...it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR* at 1741. In addition, the Court in *KSR* stated that a reason to combine elements should be made explicit. *Id.* at 1740-41.[3] Indeed, the Court approvingly cited *In re Kahn*, 441 F.3d 977 (Fed. Cir. 2006), for requiring an articulated reason. *Id.* at 1741.[4]

Ishizuka is devoid of any reason why one of skill in the art would incorporate the teachings of Torpey into Ishizuka. The Office Action at page 9, states that combining the references would result in "adding flexibility and rendering classified objects differently in order to result in a more desirable output image." Thus, the proffered motivation, even assuming that the underlying results do in fact occur from the general implementation of the teachings of Torpey, does not mean that the ordinary artisan would have incorporated the object type identification of Torpey into Ishizuka.

Thus, the PTO has not properly articulated a reason for why one with ordinary skill in the art would combine the teachings of Ishizuka and Torpey. Because the PTO has not provided sufficient reasons to combine the teachings of Ishizuka and Torpey, any rejection

[3] "Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit." *Id.* at 1740-41.

[4] "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" *Id.* at 1741.

based on this combination is improper. Accordingly, the present claims are not rendered unpatentable over the prior art.

Therefore, the rationale proffered in the Office Action for modifying Ishizuka in view of Torpey is not correct, and, therefore, the requirement that a sufficiently articulated rationale for modifying /combining the references is not satisfied in the Office Action.

Applicant respectfully submits that independent claim 12 is patentably distinguishable over the cited references and thus, allowable. Further remarks regarding the asserted relationship between any of the claims and the cited references are not necessary in view of their allowability. Applicant's silence as to the Office Action's comments is not indicative of being in acquiescence to the stated grounds of rejection.

CONCLUSION

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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